

Claims

We claim:

1. A cable management rack for routing cables thereon, said rack having a front side and a rear side and said rack comprising:

a frame;

first and second frame-mountable components, each of said components having a plurality of ports configured for receiving an end of one of said cables therein; and

a frame-mountable pass-through tray disposed on said frame between said first and second components, said pass-through tray for routing said cables between said front side of said rack and said rear side of said rack.

2. A rack in accordance with claim 1 wherein said tray includes a base for supporting said cables thereon and at least one mounting portion extending generally from said base for permitting said tray to be mounted to said frame.

3. A rack in accordance with claim 2 wherein said pass-through tray includes at least one side wall for retaining said cables on said base.

4. A rack in accordance with claim 3 wherein said side wall includes a bend radius control portion.

5. A rack in accordance with claim 2 wherein said tray includes a rear channel for routing cables generally transversely to the direction they take when being routed between said front and rear sides of said rack.

6. A rack in accordance with claim 5 wherein said rear channel of said tray includes a waterfall for routing cables downwardly out of said rear channel.

7. A rack in accordance with claim 6 wherein said rack further includes a rear vertical elevator and said waterfall routes cables between said rear channel and said rear vertical elevator.

8. A rack in accordance with claim 5 wherein said base includes at least one upstanding spool thereon for providing bend radius support for cables routed between said base of said tray and said rear channel.

9. A pass-through tray mountable to a cable management rack having front and rear sides between a pair of rack-mountable components, said pass-through tray for routing cables between said front side of said rack and said rear side of said rack and said tray comprising:

a base for supporting said cables thereon; and

at least one mounting portion extending generally from said base for permitting said tray to be mounted to said rack.

10. A pass-through tray in accordance with claim 9 wherein said tray further includes at least one side wall for retaining said cables on said base.

11. A pass-through tray in accordance with claim 10 wherein said side wall includes a bend radius control portion.

12. A pass-through tray in accordance with claim 9 wherein said tray includes a rear channel for routing cables generally transversely to the direction they take when being routed between said front and rear sides of said rack.

13. A pass-through tray in accordance with claim 12 wherein said rear channel of said tray includes a waterfall for routing cables downwardly out of said rear channel.

14. A pass-through tray in accordance with claim 13 wherein said rack further includes a rear vertical elevator and said waterfall routes cables between said rear channel and said rear vertical elevator.

15. A pass-through tray in accordance with claim 12 wherein said base includes at least one upstanding spool thereon for providing bend radius support for cables routed between said base of said tray and said rear channel.

16. A method for routing a cable having first and second ends from a first cable management rack to a second cable management rack, each of said racks having at least one cable end-receiving port thereon on a front side thereof, and each of said racks additionally having a rear side, each of said racks having at least one rack-mounted pass-through tray mounted thereon at approximately the same elevation, said second rack including a rear vertical elevator and a slack manager, each of said pass-through trays including a rear channel and at least said tray on said second rack including a waterfall portion, said method comprising the steps of:

- inserting said first end of said cable into said port on said first cable management rack;
- routing said cable generally transversely over a fan at approximately the same elevation as said port on said first cable management rack;
- routing said cable vertically to a rack-mounted pass-through tray;
- routing said cable through said pass-through tray from said front side of said first rack to said rear side of said first rack;
- routing said cable into said rear channel of said tray on said first rack;
- routing said cable transversely through said rear channel of said tray on said first rack;
- routing said cable transversely from said rear channel of said tray on said first rack to said rear channel on said tray on said second rack;
- routing said cable through said waterfall portion of said rear channel on said second rack;
- routing said cable from said waterfall portion to said rear vertical elevator of said second rack;

routing said cable from down said rear vertical elevator to said slack manager of said second rack;

routing said cable from said slack manager of said second rack up to a fan at approximately the same elevation as said port on said second cable management rack;

routing said cable over said fan to said port on said second cable management rack;

and

inserting said second end of said cable into said port on said second cable management rack.

17. A method in accordance with claim 16 wherein the steps of the method are performed in reverse order.

18. A method in accordance with claim 16 wherein a finger hole is present on each of said fans to facilitate the routing of said cable thereover.

19. A method in accordance with claim 16 wherein between said routing said cable through said pass-through tray step and said routing said cable into said rear channel of said tray on said first rack step, said cable is routed around an upstanding bend radius control element on said tray.

20. A multiple-rack system of cable management racks for routing cables thereon and therebetween, at least one of said racks having a front side and a rear side and said one rack comprising:

a frame;

first and second frame-mountable components, each of said components having a plurality of ports configured for receiving an end of one of said cables therein; and

a frame-mountable pass-through tray disposed on said frame between said first and second components, said pass-through tray for routing said cables between said front side of said one rack and said rear side of said one rack.

21. A system of racks in accordance with claim 20 wherein said system includes a pair of adjacent racks, each of said adjacent racks comprising:

a frame;

first and second frame-mountable components, each of said components having a plurality of ports configured for receiving an end of one of said cables therein; and

a frame-mountable pass-through tray disposed on said frame between said first and second components, said pass-through tray for routing said cables between said front side of said one rack and said rear side of said one rack.

22. A rack in accordance with claim 21 wherein each of said pass-through trays includes a rear channel and said rear channels of said pass-through trays are connected such that said cables may pass directly from one rear channel to the other.

23. A method for routing a cable having first and second ends from a first cable management rack to a second cable management rack, each of said racks having at least one cable end-receiving port thereon on a front side thereof, and each of said racks additionally having a rear side, each of said racks having at least one rack-mounted pass-through tray mounted thereon at approximately the same elevation, said second rack including a rear vertical elevator and a slack manager, each of said pass-through trays including a rear channel and at least said tray on said second rack including a waterfall portion, said method comprising the steps of:

inserting said first end of said cable into said port on said first cable management rack;

routing said cable generally transversely over a fan at approximately the same elevation as said port on said first cable management rack;

routing said cable vertically to a rack-mounted pass-through tray;

routing said cable through said pass-through tray from said front side of said first rack to said rear side of said first rack;

routing said cable into said rear channel of said tray on said first rack;

routing said cable transversely through said rear channel of said tray on said first rack;

routing said cable transversely from said rear channel of said tray on said first rack to said rear channel on said tray on said second rack;

routing said cable from said rear channel of said tray on said second rack to said rear vertical elevator of said second rack;

routing said cable from said rear vertical elevator of said second rack to a second rack-mounted pass-through tray on said second rack;

routing said cable through said second rack-mounted pass-through tray on said second rack to a front side of said second rack;

routing said cable to said slack manager of said second rack;

routing said cable from said slack manager of said second rack up to a fan at approximately the same elevation of said port on said second cable management rack;

routing said cable over said fan to said port on said second cable management rack;

and inserting said second end of said cable into said port on said second cable management rack.

24. A method in accordance with claim 23 wherein the steps of the method are performed in reverse order.

25. A method in accordance with claim 23 wherein a finger hole is present on each of said fans to facilitate the routing of said cable thereover.

26. A method in accordance with claim 23 wherein between said routing said cable through said pass-through tray step and said routing said cable into said rear channel of said tray on said first rack step, said cable is routed around an upstanding bend radius control element on said tray.

27. A method in accordance with claim 23 wherein routing said cable from said rear channel on said tray on said second rack to said rear vertical elevator of said second rack comprises routing said cable upwardly into said rear vertical elevator of said second rack.

28. A method in accordance with claim 27 wherein routing said cable from said rear channel of said tray on said second rack upwardly into said vertical elevator of said second rack comprises routing said cable along an upwardly curved rear bend radius control extension.

29. A method in accordance with claim 23 wherein routing said cable from said rear channel on said tray on said second rack to said rear vertical elevator of said second rack comprises routing said cable downwardly into said rear vertical elevator of said second rack.

30. A method in accordance with claim 23 wherein routing said cable from said rear vertical elevator of said second rack to a second rack-mounted pass-through tray on said second rack comprises routing said cable along an upwardly curved rear bend radius control extension.

31. A method in accordance with claim 23 wherein routing said cable to said slack manager of said second rack comprises routing said cable along a downwardly curved front bend radius control extension.